



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Natural Resources

DIVISION OF OIL AND GAS

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January 12, 2018

Sarah Kenshalo
Permitting Coordinator
ConocoPhillips Alaska, Inc.
P.O. Box 100360
Anchorage, AK 99510

RE: LONS 17-005, ConocoPhillips Alaska, Inc., Colville River Unit, Putu 2 Exploration Project Unit Plan of Operations Decision

Dear Ms. Kenshalo:

I. INTRODUCTION

On November 2, 2017, ConocoPhillips Alaska, Inc. (Applicant) submitted a request to the Division of Oil and Gas (Division) for approval of a Unit Plan of Operations (Plan) to carry out the Putu 2 Exploration Project in the Colville River Unit (CRU). The Putu 2 Exploration Project ice drilling pad is approximately 2.8 miles east of Nuiqsut. Approval of this Plan, along with approvals from other state and federal agencies (Agencies), is necessary for ConocoPhillips Alaska, Inc. (CPAI) to carry out the project. Any further exploration is subject to additional review and approval by the Alaska Department of Natural Resources (DNR).

II. SCOPE OF DECISION

The DNR Commissioner has delegated authority for approval of Unit Plan of Operations activities to the Division under Department Order 003 in accordance with Alaska Statute (AS) 38.05 and 11 Alaska Administrative Code (AAC) 83.346. As set forth below, the Division has evaluated the proposed Plan to determine if sufficient information as required by 11 AAC 83.346 is provided. The Division has also considered that criteria set forth in 11 AAC 83.303. In approving a Plan, the Division may require amendments that it determines are necessary to protect the State's interests (11 AAC 83.346(e)).

This decision will authorize drilling of the Putu 2 exploration well and sidetrack, and vertical seismic profile (VSP) of the well and sidetrack.

Associated ice roads and storage pads located on State of Alaska surface lands will be authorized by the DNR Division of Mining, Land & Water (DMLW). Ice roads and storage pads associated with the project and located on Kuukpik Corporation or other private surface lands will be authorized through private agreements with the surface owners. The following table includes additional permits and authorizations necessary for CPAI to carry out the Putu 2 Exploration Project.

Agency	Permit(s)
Alaska Oil and Gas Conservation Commission	Permit to Drill
Alaska Department of Environmental Conservation (ADEC)	Minor General Air Quality Permit Temporary Storage of Drilling Waste C-Plan
Alaska Department of Fish & Game (ADF&G)	Public Safety Permit Fish Habitat Permits (B8530, M9607, ASRC Mine Site)
DNR Division of Mining, Land & Water	Temporary Water Use Authorization (B8530, M9607)
DNR Office of History and Archaeology (OHA)	Cultural Clearance
North Slope Borough (NSB)	Administrative Permits Development Permit Traditional Land Use Inventory
Inupiat Community of the Arctic Slope	Revocable Use Permit
US Fish and Wildlife Service	Letter of Authorization
Armstrong Energy, LLC	Letter of Non-Objection

III. LAND STATUS

The CRU is comprised of state and non-state lands.

- A. Division's Leased Lands: This section refers to Division managed oil and gas leases regardless of ownership of overlying surface lands.

Oil and Gas Lease: ADL 390674

Oil and Gas Mineral Estate Lessee(s): ConocoPhillips Alaska, Inc.

Surface Ownership and Access Agreement: Surface estate is owned by Kuukpik Corporation. CPAI has an agreement with Kuukpik that allows CPAI to make use of Kuukpik Corporation surface lands for activities associated with the Putu 2 Exploration Project.

Special Use Lands: N/A

Jointly Managed Lands: The mineral estate within the project area is jointly owned and managed by Arctic Slope Regional Corporation (ASRC) and the State of Alaska. These lands are subject to the 1991 Settlement Agreement between ASRC and the State of Alaska.

Other Considerations: N/A

Project Components	Meridian, Township, Range, & Section(s)	GPS Coordinates
Putu 2 Well and Sidetrack	Umiat, T10N, R5E, S9	70.2332332, -150.8744831
Ice Access Road	Umiat, T10N, R5E, S9	Varies
VSP	Umiat, T10N, R5E, S9	Varies
Electrical Support Ice Pad 1	Umiat, T10N, R5E, S9	70.2418037, -150.8783269
Electrical Support Ice Pad 2	Umiat, T10N, R5E, S9	70.2367407, -150.8788102

Power Cable Line	Umiat, T10N, R5E, S9	Varies
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Oil and Gas Lease: ADL 391915

Oil and Gas Mineral Estate Lessee(s): ConocoPhillips Alaska, Inc.

Surface Ownership and Access Agreement: Surface estate is owned by Kuukpik Corporation. CPAI has an agreement with Kuukpik that allows CPAI to make use of Kuukpik Corporation surface lands for activities associated with the Putu 2 Exploration Project.

Special Use Lands: N/A

Jointly Managed Lands: The mineral estate within the project area is jointly owned and managed by Arctic Slope Regional Corporation (ASRC) and the State of Alaska. These lands are subject to the 1991 Settlement Agreement between ASRC and the State of Alaska.

Other Considerations: N/A

Project Components	Meridian, Township, Range, & Section(s)	GPS Coordinates
Putu 2 Sidetrack	Umiat, T10N, R5E, S8	70.2332332, -150.8744831
VSP	Umiat, T10N, R5E, S8	Varies

- B. State of Alaska Surface Lands: This section refers to State owned surface lands where no Division managed oil and gas leases exist.

The project area does not contain lands under this classification.

- C. Non-State Lands: This section refers to areas where the State does not own the surface land and no Division managed oil and gas leases exist.

The project area does not contain lands under this classification.

IV. PROPOSED OPERATIONS

The Plan describes the proposed operations in full detail. The following is a summary of the key details.

CPAI proposed the following schedule for the 2017-2018 drilling season. All dates are approximate and may be altered by weather or logistic requirements. The dates will also change because some of them precede this decision. The schedule provides the Division with an overall idea of the sequence and schedule of events. The Division reviewed this schedule with the expectation that dates early in the sequence would move back and that later dates for finishing drilling, demobilization, and clean up would remain the same.

A. Sequence and Schedule of Events

Project Milestone #	Project Milestone	Proposed Start Date	Proposed End Date
1	Drilling	1/15/2018	3/15/2018
2	VSP	3/20/2018	3/27/2018

3	Well Testing	3/15/2018	4/15/2018
4	Completion and Demobilization	4/15/2018	4/25/2018

B. Well Sites

The drilling location activities are proposed in the southern portion of the CRU. CPAI has identified one surface drilling location for the Putu 2 well. A planned layout of the drill site is shown in Appendix A. The Putu 2 well is being planned for a directional target (Putu 2) followed by one vertical sidetrack target (Putu 2A) from the same surface location, with each targeting a separate prospect. The planned well bore design was submitted as part of the drilling permit issued by the Alaska Oil and Gas Conservation Commission (AOGCC) and the design is similar to those of other North Slope exploratory wells.

CPAI plans to start drilling on approximately January 15, 2018. Drilling activities at the Putu 2 ice pad will be conducted using a single drill rig, Kuukpik 5, which is suitable for arctic operations. The Putu 2 and Putu 2A sidetrack wells will provide additional reservoir information for the area and reduce uncertainty around reservoir description parameters; including oil-water contact, sand quality and thickness, and oil viscosity. Drilling operations will occur from the Putu 2 ice pad with approximate maximum dimensions of 800 feet by 800 feet, comprising approximately 14.7 acres. The ice drilling pad will be situated so that the pad edge is no closer than 100 feet from the shoreline of any nearby water bodies.

C. Buildings

Stallion Camp RC34, a temporary camp, will be located at the Putu 2 ice drilling pad to support personnel. The man camp can accommodate approximately 65 people and will be powered by the primary Tier 4 diesel generator set located at the ice pad approximately one mile north of the drilling ice pad. The man camp will also be equipped with a back-up emergency diesel generator. In addition to the man camp, the drilling ice pad will include a satellite office camp, storage areas, and maintenance buildings.

D. Fuel and Hazardous Substances

The ice drilling pad will have vessels with a storage capacity of approximately 28,900 gallons to support the drilling program and emergency generator. Fuel will be stored in multiple fuel containers and placed in lined bermed fuel storage areas. The Stallion camp will be equipped with primary and back-up diesel fuel tanks. The Kuukpik 5 drill rig will be equipped with a 7,500-gallon diesel fuel tank to power the rig's back-up emergency diesel generator. There will be two 10,000-gallon diesel fuel tanks at the drilling ice pad to be used as back-up fuel for the rig and for other auxiliary equipment.

The project will also require four 400-barrel crude storage tanks for well testing and six 500-barrel secondary tanks, for an estimated total capacity of 4,600 barrels. The crude storage tanks catch the crude during flow testing and do not store or contain fuel. The tanks will be located at the Putu 2 drilling ice pad during well testing and are considered part of the well testing fleet.

The drilling contractor holds a Spill Prevention, Control, and Countermeasure (SPCC) plan for the fuel storage facilities associated with drilling operations; all fueling and transfer operations will be performed in accordance with the Fieldwide Standard Operation Procedure (Kuparuk and

Alpine) for Fluid Transfers (CPAI-005) and liners will be used as required by the Fieldwide Standard Operating Procedures for Liners and Drip Pan Use (F-006).

An approved Oil Discharge Prevention and Contingency Plan (ODPCP) will be kept on site at all times for use in controlling and cleaning up any accidental discharges of fuels, lubricants, or produced fluids. The ODPCP has been reviewed and the project is consistent with the approved plan. An information package for the Putu 2 drilling program is being submitted to ADEC.

E. Solid Waste Sites

Solid, non-burnable waste will be deposited in large dumpsters at the project site. These containers will be back-hauled to the NSB landfill at Prudhoe Bay. Food waste that could attract wildlife will either be stored in enclosed shipping containers, awaiting periodic hauling, or such waste will be placed in a secured wildlife proof container while waiting for pickup. Camp wastewater will be hauled primarily to the Kuparuk Operations Center (KOC) wastewater treatment facility. Alternatively, the wastewater treatment facility at Alpine may be periodically used. Wastewater will not be directly discharged by the camp. Therig and testing camps will each generate approximately 5,000 gallons of wastewater daily.

Excess drilling muds and drill cuttings will be hauled off-site and disposed of by injection into an approved Class II well at Kuparuk, or through the grind and inject facility (Drill Site 4) at Prudhoe Bay. Prior to hauling, the cuttings and liquids will be temporarily stored in cutting boxes inside ice-bermed storage cells. The storage cell will have two feet of freeboard above the cuttings and will conform to ADEC Temporary Storage of Drilling Waste requirements. The volume of waste placed in the storage cell will be minimized as will snow accumulation in the cell. Upon completion of the activities at the well site, the ice-bermed drilling waste storage cell will be broken up and transported to Kuparuk or Prudhoe Bay for disposal in an approved Class II injection well.

F. Water Supplies

Water and ice chips will be obtained through DMLW and ADF&G-permitted sources associated with CPAI's Alpine Resupply Road. Water from Lake B8530, M9607, and ASRC Mine Site will also support this project. The water sources will be used for the construction and maintenance of the ice roads and ice pads. An ice road approximately 0.4 miles in length will be constructed from the Alpine Resupply ice road to the Putu 2 ice pad.

Signs will be placed at lake access points to identify each permitted source being actively used and all water intakes on fish-bearing lakes will have ADF&G-compliant screens at the intake points to prevent entrapment of fish. Snow cover will be removed from all sources approved for water withdrawal or ice mining to facilitate equipment access and installation. Additional snow for ice road and pad construction may be removed from any non-fish-bearing lakes and lakes less than seven feet deep. Snow and ice beyond the minimal amount required for vehicle access and water and ice withdrawal must be approved by the ADF&G.

The Putu 2 ice road will utilize approximately 400,000 gallons of water for construction and maintenance. Construction of ice access roads, pads, and an ice-encased power cable will require a total of approximately 4,900,000 gallons of water. Approximately 40,000 gallons of water will be required daily to maintain each mile of ice road during the winter season. The estimated total

of water needed for this project, including construction of ice roads and ice pads and operations, is 10,700,000 gallons.

Fresh water is also needed for drilling operations and camp use. Up to 20,000 gallons will be required daily for drilling operations. Camps will need about 5,000 gallons of fresh water daily. Wastewater from the camps will be hauled to the KOC wastewater treatment facility for disposal. The Alpine operations facility may provide potable water and wastewater disposal if sufficient capacity exists. Light plants will be placed on frozen lakes at the water houses and on access roads for safety purposes. The light plants will be refueled on the frozen lakes following CPAI's standard procedures for fuel transfers. All light plants have 110 percent spill containment.

G. Utilities

Power will be supplied to the drill rig from a remote temporary Tier 4 diesel generator set. The generator set will be placed on a 200-foot by 200-foot ice pad located approximately one mile north of the drilling ice pad. To connect the Putu 2 drilling ice pad to the primary Tier 4 generator set, a 13.8 kV power cable line will run from the drilling pad to the generator ice pad. The power cable line will be encapsulated in ice approximately 25 feet wide and approximately 25 inches thick.

Two electrical cable support ice pads, each approximately 100-feet by 100-feet, will be constructed along the power cable ice encapsulation corridor to support the connection and maintenance of the 13.8 kV power cable line. The ice pads will be situated so the pad edge is no closer than 100 feet from the shoreline of any nearby water bodies. An approximately 25-foot tall communication tower will be attached to the drilling rig on the drilling ice pad. The communication system is self-contained with its own backup generator and light plant. All communication towers are temporary and will be removed at demobilization. A lighting plan for the Putu 2 drilling ice pad will be developed to reduce lights visible from the Village of Nuiqsut.

H. Material Sites

No material sites will be utilized for this project.

I. Roads

An approximately 0.4-mile ice road will originate at the previously-permitted Alpine Resupply Road and proceed south to the Putu 2 well location. Wheeled vehicles on the ice roads will be used to transport the drilling rig and supplies to and from the Putu 2 drilling ice pad. CPAI proposes to begin building the ice roads and ice pads to the well as soon as the necessary permits and approvals are issued by the authorizing agencies and tundra travel conditions are met. The ice roads will generally be 35 feet wide and a minimum of six inches thick. Rig mats or similar items may be used during ice road construction or during equipment movement. Such devices will be removed prior to the end of the operating season. Ice pullout areas or widened sections of the ice road may be constructed at certain locations depending on field conditions. The ice pads will be a minimum of six inches thick, except under the drill rig, where the thickness will be a minimum of one foot, and the cuttings storage area, where the thickness will be two feet. Additional thickness may be required due to undulating terrain.

J. Airstrips

No airstrips are required for the project.

K. All Other Facilities and Equipment

A list of typical equipment used to support drilling activities is provided in Appendix C. Equipment types will be typical of that used for North Slope oil and gas operations and will be obtained from existing North Slope contractors.

Air Emissions - Sources of air emissions from the operation are from the Tier 4 diesel generator set, camp generator engines, steam generators, waste oil burners, hot air heater, light plants, incinerators, and well test flaring equipment.

Air Quality Monitoring – Volatile Organic Chemical (VOC) sampling is not a requirement for any of CPAI's assets or operations; however, CPAI is electing to take VOC samples during drilling and testing as a mitigation measure on scheduled intervals. Also, in the event of a gas release, and to expedite sampling, CPAI proposed placing extra VOC sampling canisters in Nuiqsut (in addition to the regularly scheduled VOC sample interval canisters) to be readily available for sampling. CPAI personnel would be trained to take the samples, if needed.

Air Monitoring Stations – Measurement points will be established on: (i) the Nuiqsut side of the generator ice pad during drilling operations and the Nuiqsut side of the edge of the drilling ice pad once drilling operations are completed; (ii) on the edge of Nuiqsut at the existing CPAI air monitoring station; and (iii) at a location on the municipal boundary of Nuiqsut between the generator ice pad and Nuiqsut. Two new mobile air monitoring stations will be utilized for the Putu 2 project. A temporary air monitoring station will be located on the generator ice pad and a sled-mounted, tractor-transported air monitoring station will be placed at the northeast corner of the Village of Nuiqsut boundary.

Noise Monitoring Station – A noise monitoring station will also be installed at the air monitoring station on the Nuiqsut municipal boundary to monitor noise from the Putu 2 project. The temperature-sensitive noise monitoring equipment will be housed inside the air monitoring station. A buried microphone cord will then extend approximately 100-feet to the northwest from the air monitoring station to an approximately 8-foot tall tripod where the microphone will be mounted. The noise tripod will have reflective tape or paint for visibility. The tripod will be held in place with sandbags and will not penetrate the tundra. The air and noise monitoring station will not be located within 100 feet of the shoreline of any nearby water bodies.

Enclosed Flare – CPAI will utilize an enclosed flare (during well testing) as a visual mitigation measure.

Vertical Seismic Profile (VSP) – CPAI is planning to conduct a vertical seismic profile (VSP) using a tundra-approved Vibroseis vehicle (vibe). The velocity survey will be conducted during the wireline operations for the Putu 2 well and sidetrack. The vibe will move outwards in a straight line from the well location for approximately 7,000 feet in a northwest direction. The survey will begin in T10N, R5E, Section 9 and extend into T10N, R5E, Section 8. The survey is expected to take approximately 24 hours; once completed the vibe will return to the drill pad.

L. Rehabilitation Plan

Upon completion of drilling and evaluation operations, all debris will be hauled to an approved disposal site. The ice pads will be chipped or scraped and the scrapings will be hauled to an

approved disposal well. The well will be plugged and abandoned prior to the end of the winter drilling season. AOGCC requires that after plugging and abandonment the well monument be buried three feet below tundra grade. CPAI will bury the well monument eight feet below tundra grade. Final site closure will be approved by all appropriate agencies.

M. Operating Procedures Designed to Minimize Adverse Effects

Owls, ravens, arctic fox, musk ox, and possibly an occasional over-wintering caribou may be found in the project area. These animals frequent all locations on the North Slope. Grizzly bears also inhabit the general area but it is unlikely they will be active in the winter season. Polar bears are occasionally seen north of this area along the coast or along the Colville River. Although encounters with polar bears or grizzly bears are unlikely, CPAI and its contractors will exercise caution while establishing the ice transportation route and watch for bear sign. If sign is observed or a den site identified, then the ADF&G and US Fish and Wildlife Service (USFWS) will be notified and the transportation route altered to avoid any disturbance. CPAI will also employ a Polar Bear/Personnel Encounter Plan approved by the USFWS. The probability of encountering a grizzly bear during winter drilling operations is remote; however, should a grizzly bear be encountered, the same procedures outlined in the attached Polar Bear/Personnel Encounter Plan would be applicable.

Encounter prevention policies are the same for both grizzly and polar bears. Food will be kept inside buildings or containers that minimize odors. Hazardous materials will be kept in drums or other secure containers. Buildings and drill pad layouts should be designed to maximize visibility and minimize potential areas that a bear could crawl into or otherwise be hidden from view. Any sightings should be immediately reported to the site superintendent, and personnel in the area should be warned of the location of the bear. Any grizzly bear sightings will be reported to security and the Exploration Field Environmental Coordinators, who will then report to the ADF&G and the USFWS. Project personnel will be instructed to not feed wildlife of any type or in any other way attempt to attract them either at the drill site or on the ice transportation route.

A cultural resources study for site clearance was conducted by Reanier & Associates, Inc in July and August of 2017. to assess any known sites and locate currently unknown sites. The resulting reports include background information on the history of the landscape and human use of the study area since the last ice age, a description of the Putu 2 exploration area, the results of the reconnaissance survey, and conclusions and recommendations for cultural resource clearance. The records review includes the Alaska Heritage Resources Survey database, maintained by the DNR OHA, and the Traditional Land Use Inventory (TLUI) database, maintained by the NSB. The ice roads and the ice pads will only be constructed in areas that have been cleared for archaeological/cultural resources. No known cultural resources would be affected by the proposed exploration activities. A letter report detailing the cultural resource surveys will be submitted to the DNR State Historic Preservation Office and NSB TLUI.

In approving a Plan, DNR may require amendments necessary to protect the State's interest (11 AAC 83.158). The Division has determined that to protect the State's interest, it is necessary to incorporate the 2008 North Slope Areawide Mitigation Measures. CPAI addressed these mitigation measures in the application process, but it is necessary to amend the Plan to make clear that the Plan incorporates the North Slope Mitigation Measures.

All plan applicants must complete a mitigation measure analysis demonstrating that each mitigation measure is satisfied or inapplicable to the proposed Plan, or that the applicant is seeking an exception. The North Slope Mitigation Measures allow the Division to grant an exception if the applicant shows that compliance with the measure is not practicable or that the applicant will undertake an equal or better alternative to satisfy the intent of the mitigation measure. CPAI completed the mitigation measure analysis for the 2008 North Slope Areawide Mitigation Measures and seeks exceptions to the mitigation measures discussed below.

North Slope Mitigation Measure A.1.c:

To the extent practicable, the siting of facilities will be prohibited within 500 feet of all fish-bearing streams and waterbodies and 1,500 feet from all current surface drinking water sources. Additionally, to the extent practicable, the siting of facilities will be prohibited within one-half mile of the banks of the main channel of the Colville, Canning, Sagavanirktok, Kavik, Shaviovik, Kadleroshilik, Echooka, Ivishak, Kuparuk, Toolik, Anaktuvuk and Chandler Rivers. Facilities may be sited within these buffers if the lessee demonstrates to the satisfaction of the Director, in consultation with Alaska Department of Fish and Game (ADF&G), that site locations outside these buffers are not practicable or that a location inside the buffer is environmentally preferred. Road, utility, and pipeline crossings must be consolidated and aligned perpendicular or near perpendicular to watercourses.

The proposed drilling location is no closer than 100 feet to a presumed fish-bearing lake immediately north of the site. The lake appears to be within the floodplain of the Colville River and is about 1,500 feet from the normal channel boundaries. As such, this lake would be subject to periodic inundation from the Colville River, introducing fish to the lake during these periods. CPAI believes that it is impracticable to locate the facility outside of the buffers due to local geography and its exploratory drilling targets.

The Division, in consultation with ADF&G, agrees that it is impracticable to site the drilling location outside of the buffers due to operational considerations. The proposed drilling location is temporary in nature and is not proposed for use during periods when open water is present at the lake or on the Colville River. Should they occur, releases and other unanticipated impacts are expected to be contained before open water is present and, relative to releases during summer months, more easily contained due to the presence of snow and ice and lack of open water.

The intent of this measure is to prevent hydrocarbons from entering the water system and affecting sensitive habitat and wildlife populations when open water is present. The Division finds that CPAI has shown rationale that proposed activities in the Plan equally satisfy the intent of this mitigation measure. CPAI proposes to site a temporary exploration facility within no more than 100 feet of a presumed fish-bearing waterbody and within one-third mile of the main channel of the Colville River during the Winter 2017-2018. The Division grants an exception to this mitigation measure to allow for the Applicant's alternative as set forth in the Plan. This exception does not apply to activities that the Applicant may propose in future or amended Plans.

North Slope Mitigation Measure A.4.e:

Vehicle refueling shall not occur within the annual floodplain, except as addressed and

approved in the plan of operations. This measure does not apply to water-borne vessels.

The location of Putu 2 is within the Colville River floodplain; refueling elsewhere would be impractical. As project activities will be taking place only during the winter exploration season and refueling will be limited to the drilling pad and conducted in accordance with all applicable rules and procedures, any release would be quickly identified and contained well before spring breakup.

The intent of this measure is to prevent hydrocarbons from entering the water system and affecting sensitive habitat and wildlife populations. The Division finds that CPAI has shown rationale that proposed activities in the Plan equally satisfy the intent of this mitigation measure. CPAI proposes to refuel within the annual floodplain. The Division grants an exception to this mitigation measure to allow for the Applicants alternative as set forth in the Plan. This exception does not apply to activities that the Applicant may propose in future or amended plans of operations.

The Division has determined that to protect the State's interest, it is necessary to incorporate into the Plan the 2008 North Slope Mitigation Measures as amendments and stipulations to this Plan (11 AAC 83.346(e)).

V. CONSIDERATION OF UNIT PLAN OF OPERATIONS REQUIREMENTS UNDER 11 AAC 83.346(c-d) and 11 AAC 83.390

A. Full Payment of Damages to the Surface Owner 11 AAC 83.346(c)

The surface at Putu 2 is owned by Kuukpik Corporation. CPAI has a surface access agreement with Kuukpik Corporation. Thus, CPAI has provided for full payment of damages prior to starting operations (11 AAC 83.346(c)).

B. Plan Sufficiency 11 AAC 83.346(d)

A proposed plan must include statements, maps, or drawings setting forth

- (1) the sequence and schedule of operations;
- (2) the projected use requirements directly associated with the proposed operations;
- (3) plans for rehabilitation;
- (4) a description of operating procedures to prevent or minimize adverse effects on natural resources and concurrent uses of the area (11 AAC 83.346(d)).

The information in Section IV. Proposed Operations, and additional information contained in CPAI's proposed Plan satisfy the requirements for a plan under 11 AAC 83.346(d) and thus provide the Division with sufficient information available at this time to determine the surface use requirements and impacts directly associated with the proposed operations.

C. Oil and Gas Lease Bond 11 AAC 83.390

The State owns none of the surface land where the proposed Plan activities will be located. The State owns a portion of the mineral estate within which the Applicant proposes to explore. For the State, a lessee provides for payment of damages by posting a bond, and remains liable for full damages under the lease. CPAI has a Statewide Oil and Gas Bond in the amount of \$500,000 and continuing liability under the lease.

The Division has determined that to protect the State's interest, it is necessary to incorporate into the Plan the 2008 North Slope Mitigation Measures as amendments and stipulations to this Plan (11 AAC 83.346(e)).

VI. CONSIDERATION 11 AAC 83.303 CRITERIA

A. Protection of Public Interest

The Division has considered the public interest, taking into account statutory provisions that provide for conserving natural resources through unitized development (11 AAC 83.303(a); AS 38.05.180(p)). The legislature has declared the public's interest in oil and gas development as an interest in developing oil and gas resources to maximize economic and physical recovery, maximize competition, and maximize use of Alaska's human resources (AS 38.05.180(a)(1)).

This Plan addresses the means for carrying out the Putu 2 Exploration Project, which, as determined by the 19th CRU Plan of Development, is necessary for maximizing recovery of the oil and gas resources. Additionally, development under this Plan will contribute positively to the market by increasing overall oil production in the area.

B. Conservation of Natural Resources

The Division has considered whether the Plan promotes conservation of all natural resources, including all or part of an oil or gas Plan, field, or area (11 AAC 83.303(a)(1)). Conservation, in this context, means maximizing the efficient recovery of oil and gas and minimizing the adverse impacts on the surface and other resources (11 AAC 83.395(1)). Development within a unit is intended to provide more efficient development than on the individual leases that make up the unit, and this Plan considers the development of the Unit, not single leases. Efficient development creates less impact on the land and promotes maximum use of all natural resources in the area, consistent with the public interest.

There are several ways in which the Plan seeks to minimize adverse impacts on natural resources. This Plan incorporates the mitigation measures set forth in the 2008 North Slope Areawide Oil and Gas Lease Sale Final Finding (North Slope Mitigation Measures). These include measures to protect habitat, fish, and wildlife; protect subsistence resources; and limit the impact from fuel and hazardous substances (2008 North Slope Areawide Final Finding at 9-3 – 9-5). The Plan also includes operating procedures to prevent or minimize adverse effects, including effects on the environment, wildlife, and subsistence resources discussed in Section IV.M.

C. Prevention of Economic and Physical Waste

The Division has considered whether the Plan promotes the prevention of economic and physical waste (11 AAC 83.303(a)(2)). Issues of economic and physical waste are carefully considered during Unitization and annually thereafter in the Plan of Development; this Plan conforms to the 19th CRU Plan of Development on file with the Division's Units Section.

D. Protection of All Parties of Interest, Including the State

The Division has considered whether the Plan provides for the protection of all parties of interest, including the State (11 AAC 83.303(a)(3)). The parties of interest to a unit plan are the unit operator and working interest owners. The State has an economic interest in the oil and gas resources because it receives royalties from production. It is further in the State's best interest to encourage assessment of oil and gas resources, recognize the costs of exploring in varied

geographic regions, and minimize the adverse impact of exploration, development, production, and transportation activity (AS 38.05.180(a)(2)).

Without approval of a Plan, CPAI cannot further develop the CRU, and the State cannot recover royalties from that development. The Plan thus protects the Unit Operators, working interest owners and the State's interests in developing the resources.

E. Environmental Costs and Benefits

The Division has considered the environmental costs and benefits of unitized development outlined in this Plan and through the CRU 19th Plan of Development, and annual updates, on file with the Units Section (11 AAC 83.303(b)(1)); this Plan conforms to the 19th CRU Plan of Development on file with the Divisions Units Section.

The 2008 North Slope Areawide Mitigation Measures, incorporated into this Plan by amendment, include measures to protect habitat, fish, and wildlife (2008 North Slope Areawide Final Finding at 9-3 – 9-5). Additional operating procedures designed to minimize adverse effects on other natural resources and other uses of the unit area and adjacent areas are discussed in Section IV.M of this decision.

F. Geological and Engineering Characteristics of Hydrocarbons

DNR previously considered the geological and engineering characteristics of a potential hydrocarbon accumulation or reservoir when it approved the unit agreement (11 AAC 83.303(b)(2)); this Plan conforms to the 19th CRU Plan of Development on file with the Divisions Units Section.

G. Prior Exploration Activities

The Division has considered prior exploration activities in the Plan area. Most recently, Armstrong Energy, LLC drilled the Horseshoe 1 Exploration well and sidetrack. This well and sidetrack were drilled in 2017 at a location approximately 14 miles southwest of the Putu 2 exploration site on the east bank of the Colville River. The closest known exploration or development project was the Tokfat 1 exploration well drilled in 2008 by Brooks Range Petroleum Corporation (BRPC). BRPC drilled the Tokfat 1 well and two sidetracks on the east bank of the Colville River approximately two miles from the proposed Putu 2 exploration site. These CRU exploration wells include the Nanuk 1 through 5 exploration wells. These other CRU wells were drilled between 1996 and 2002. CRU exploration and development activities have taken place approximately five miles north of the proposed Putu 2 Exploration Well.

H. Plan of Development

The Division has considered the plans for development set forth in and approved by DNR in the Plan of Development (11 AAC 83.303(b)(4)). The 19th CRU Amended Plan of Development approved 11/27/2017 requires CPAI to carry out operations in the proposed Plan.

I. Economic Costs and Benefits to the State

The Division has considered the economic costs and benefits to the State (11 AAC 83.303(b)(5)). Without approval of a plan, CPAI will be unable to proceed with further developing the CRU, which will cost the State the economic benefit of the royalties, as well as other economic benefits that flow from production.

J. Other Relevant Factors to Protect the Public Interest

The Division has considered other relevant factors necessary or advisable to protect the public interest (11 AAC 83.303(b)(6)). These other factors consist of the mitigation measures (Section IV.M) that will apply to this Plan and the necessity to obtain other permits and approvals by Agencies and landowners.

VII. CONSULTATION WITH OTHER GOVERNMENT ENTITIES

In reviewing the proposed Plan, the Division considered that CPAI may require approvals from Agencies for other elements of its project. Although mentioned in the Plan and above, these aspects of the project are not operations approved by this decision and the Division offers no opinion on whether an agency should or should not approve these activities.

In addition to considering the approvals required by Agencies as they relate to this decision, the Division provided an agency review and comment opportunity for the activities proposed for authorization under this decision. The following government entities were notified on November 2, 2017, for comment on the Plan: ADF&G, DMLW, ADEC, ADNRP Parks Office of History and Archaeology, US Army Corps of Engineers, and NSB. The comment deadline was 4:30 pm Alaska time on November 16, 2017. No Agency comments were received.

VIII. PUBLIC NOTICE

Public notice of the Plan and opportunity to comment, per AS 38.05.035, was published in the Alaska Dispatch News on November 23, 2017, and the Arctic Sounder on November 30, 2017, with a deadline for comments of December 22, 2017, at 4:30 pm Alaska time. Additionally, a copy of the notice was posted on DNR's web site and faxes of the public notice were sent to the Barrow and Nuiqsut post offices. No comments were received.

IX. CONDITIONS OF APPROVAL

Having considered the proposed project, the Division approves the Plan as amended and modified by this decision and subject to the below conditions of approval.

To protect the State's interest, the Division finds that it is necessary to amend the Plan to incorporate the following Conditions of Approval.

- a) The applicant shall defend, indemnify and hold the State of Alaska harmless from and against any and all claims, damages, suits, losses, liabilities and expenses for injury to or death of persons and damage to or loss of property arising out of or in connection with the entry on and use of State lands authorized under this approval by the applicant, its contractors, subcontractors and their employees.
- b) The applicant shall inform and ensure compliance with any and all conditions of this approval by its employees, agents and contractors, including subcontractors at any level.
- c) Unless pre-authorized by a general permit, amendments and modifications to this approval require advance notice and must be approved in writing by the DNR.
- d) The Commissioner of the DNR may require that an authorized representative be on-site during any operations conducted under this approval. This stipulation is required to ensure that the Divisions of Oil and Gas and Mining, Land and Water meet their statutory responsibilities for monitoring activities taking place on State-owned lands.

- e) A status report for the activities conducted under this approval must be filed with this office on May 1 and November 1 each year, from the date this approval is issued and until a final completion report is filed with the Division. If a lessee requests an assignment, a status report must also be submitted during the assignment process. Failure to file in a timely manner may result in revocation of this approval.
 - a. Each status report shall include a statement describing and map(s) depicting all operations actually conducted on the leased area as of the date the report is prepared, which includes the location, design and completion status of well sites, material sites, water supplies, solid waste sites, buildings, roads, utilities, airstrips, and all other facilities and equipment installed.
 - b. Upon completion of operations, the applicant will submit a completion report which will include all information required of a status report described in (a) above as well as a statement indicating the date of operations completion, any noncompliance with the terms of this plan approval of which a reasonable lessee would have knowledge of, clean-up activities conducted, the method of debris disposal, and a narrative description of known incidents of surface damage.
- f) Notification. The applicant shall notify the DNR of all spills that must be reported under 18 AAC 75.300 under the timelines established therein.. All fires and explosions must be reported to DNR immediately. The DNR 24-hour spill report number is (907) 451-2678; the fax number is (907) 451-2751. The ADEC oil spill report number is (800) 478-9300. DNR and ADEC shall be supplied with all follow-up incident reports.
- g) A certified As-Built survey of the improvement shall be provided within one year of placement of the improvement. This As-Built must be submitted in both electronic and physical format.

To protect the State's interest, the Division finds that it is necessary to amend the Plan to incorporate the following Project Specific Stipulations:

- a) Geophysical Data Submission Requirement Form: The Applicant will notify the Director of the Division of the availability of processed seismic exploration data within 30 days of completion of initial processing and submit seismic exploration data. The Geophysical Data Submission Requirements can be found on the DNR Division's Website <http://dog.dnr.alaska.gov/Permitting/permittingForms.htm>. This report shall be submitted to dog.redata@alaska.gov before each VSP commences.
- b) Geophysical Activity Completion Report Form: The Applicant must complete and return a Geophysical Activity Completion Report form for each VSP acquired. A non-confidential public completion report will be placed into the Plan file each time a VSP is completed. Geophysical Activity Completion reports must be submitted to the Division's Resource Evaluation Section within 30 days of completion of all activities. For in depth instructions on how to complete the form, please refer to the Division's permitting website <http://dog.dnr.alaska.gov/Permitting/PermittingForms.htm>. This report shall be submitted to dog.redata@alaska.gov. If no activities are completed under the Plan, an Activity Completion Report form must be submitted on or before January 15, 2019; be sure to check box 27 to indicate the survey was cancelled.
- c) Geophysical Processing Completion Report Form: The Applicant must complete and return a Geophysical Activity Completion Report form for each VSP acquired. A confidential Processing Completion report will be submitted each time a VSP is completed. The Processing Completion reports must be submitted to the Division's Resource Evaluation Section within 30 days of completion of initial processing. For in

depth instructions on how to complete the form please refer to the Division's permitting website <http://dog.dnr.alaska.gov/Permitting/PermittingForms.htm>. This report shall be submitted to dog.redata@alaska.gov.

X. FINDINGS AND DECISION

Having considered the proposed project and based on the foregoing discussion and consideration of issues and conditions of approval, the Division makes the following findings.

1. The Plan provides sufficient information, based on reasonably available data, for the Division to determine the surface use requirements and impacts directly associated with the proposed operations.
2. The Plan includes statements, maps, or drawings setting forth the sequence and schedule of operations, projected use requirements, description of operating procedures, and a plan of rehabilitation designed to prevent or minimize adverse effects.
3. To protect the State's interest and mitigate potential adverse social and environmental effects associated with the Plan, the Division finds it necessary to amend the Plan to incorporate the mitigation measures set forth in the 2008 North Slope Areawide Oil and Gas Lease Sale Final Finding.
4. All oil and gas activities conducted under oil and gas leases are subject to numerous local, state and federal laws and regulations with which CPAI is expected to comply.
5. The people of Alaska have an interest in developing the state's oil and gas resources and maximizing the economic and physical recovery of those resources (AS 38.05.180(a)).
6. Alaska's economy depends heavily on revenues related to oil and gas production and government spending resulting from those revenues. The related revenue sources include bonus payments, rentals, royalties, production taxes, income taxes, and oil and gas property taxes.
7. The potential benefits of approving this Plan outweigh the possible adverse effects, which have been minimized through imposition of mitigation measures, conditions of approval, and project specific stipulations, and thus approval of this Plan as modified is in the State's best interest.

Based upon the Plan, supporting information provided by the applicant and the Division's review, determination of applicable statutes and regulations, consultation with other agencies, relevant entities and individuals, public comment, and the above findings related to that Plan, the Division hereby approves the Plan as modified.

Sincerely,



Graham Smith
Permitting Section Manager
Division of Oil and Gas

1/12/2018
Date

Appeal

An eligible person affected by this decision may appeal it, in accordance with 11 AAC 02. Any appeal must be received within 20 calendar days after the date of issuance of this decision, as defined in 11 AAC 02.040(c) and (d), and may be mailed or delivered to the Commissioner, Department of Natural Resources, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501; faxed to 1-907-269-8918; or sent by electronic mail to dnr.appeals@alaska.gov. This decision takes effect immediately. An eligible person must first appeal this decision in accordance with 11 AAC 02 before appealing this decision to Superior Court. A copy of 11 AAC 02 may be obtained from any regional information office of the Department of Natural Resources.

Attachments:

Appendix A: Maps and Figure(s)
2008 North Slope Mitigation Measures with 2011 Supplement

ecc: DOG: Nathaniel Emery, Conor Williamson, Paul Blanche, James Hyun, Jeanne Frazier, Heather Heusser
DMLW: Sean Willison, Kimberly Maher, Jeanne Proulx, Melissa Head, Becky Baird
ADF&G: Jack Winters, Marla Carter
ADEC: Graham Wood
OPMP: Don Perrin
Borough: Josie Kaleak, Matt Dunn, John Adams
Other: USACE

2017-2018 Putu 2 Exploration Project

Project Overview

Exploration Activity

- Well
- Putu 2 Drill Site Ice Pad
- Generator Ice Pad
- Power Cable Support Ice Pads
- Air / Noise Monitoring Station
- Ice Road
- Electric Cable
- Vertical Seismic Profile

Ice Road Source Lakes

- Source Lake

Winter Travel

- Annual Alpine Resupply Ice Road

Infrastructure

- Pipeline
- Nuiqsut Natural Gas Pipeline
- Road
- Pad

Land Status

- BLM (NPR-A)¹
- Native Allotment⁵
- Nuiqsut City Boundary⁹
- Cabin or Platform⁴

Oil and Gas Unit

- Unit²

Data Sources:
1) BLM, 2017
2) DNR, 2017; BLM, 2017
4) NSB, 2014
5) BLM, 2017
9) DCRA, 1976

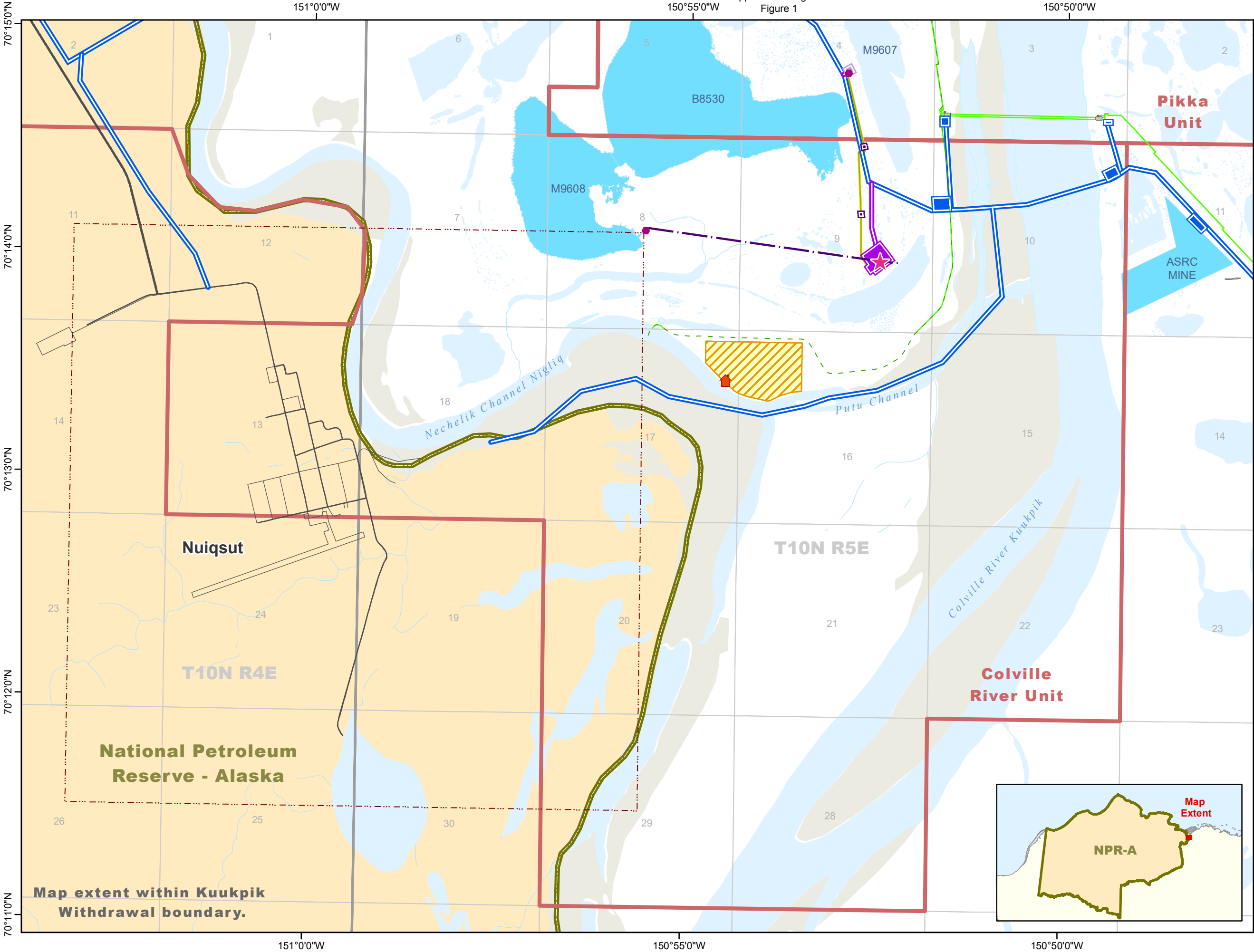


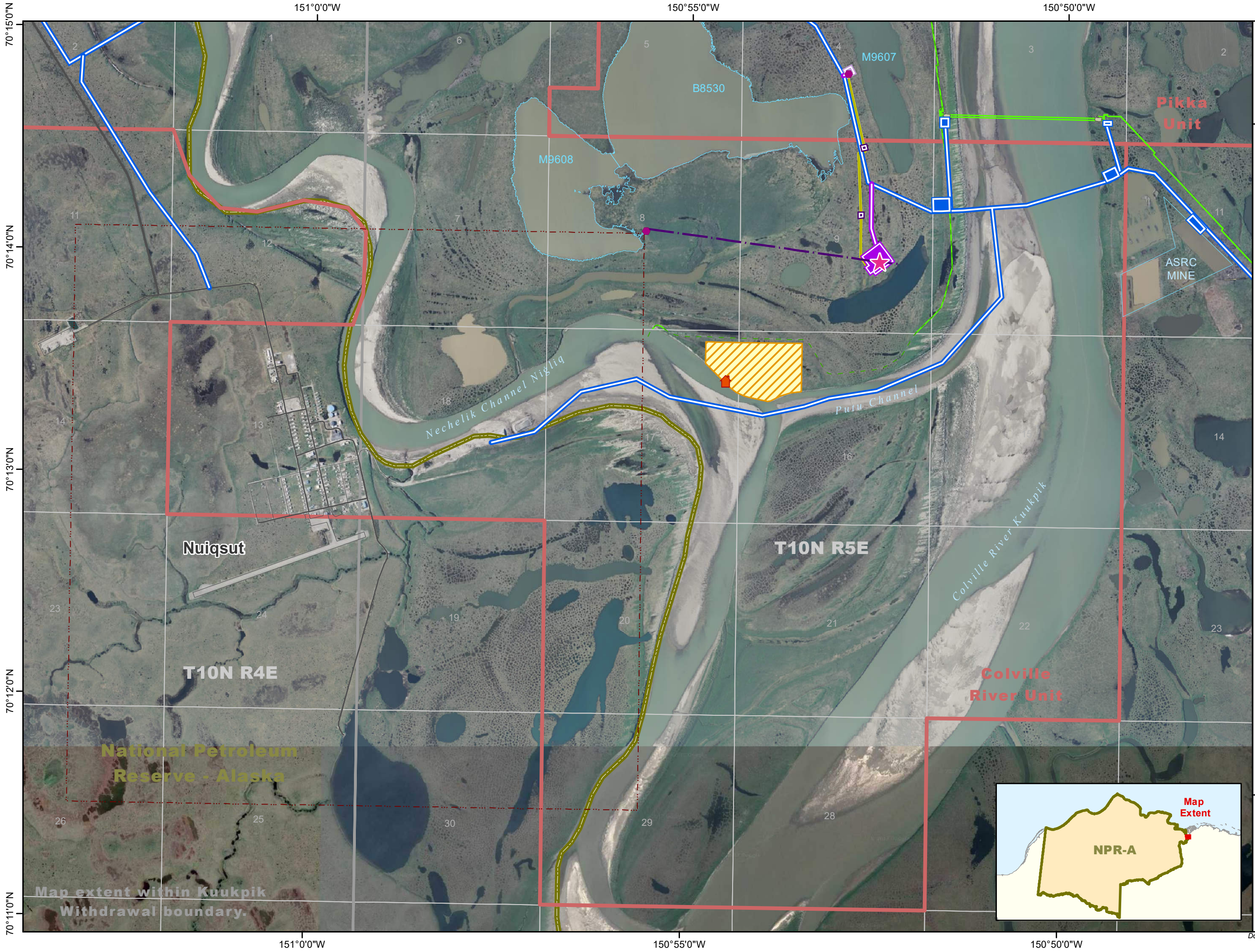
0 0.5 Miles

ConocoPhillips
Alaska, Inc.

October 4, 2017

Document Name: EXP_2017_2018_Putu2_ProjectOverview.mxd





2017-2018 Putu 2 Exploration Project

Project Overview Imagery

- ### Exploration Activity
- Well
 - Putu 2 Drill Site Ice Pad
 - Generator Ice Pad
 - Power Cable Support Ice Pads
 - Air / Noise Monitoring Station
 - Ice Road
 - Electric Cable
 - Vertical Seismic Profile

- ### Ice Road Source Lake
- Source Lake

- ### Winter Travel
- Annual Alpine Resupply Ice Road

- ### Infrastructure
- Pipeline
 - Nuiqsut Natural Gas Pipeline
 - Road
 - Pad

- ### Land Status
- BLM (NPR-A) ¹
 - Native Allotment ⁵
 - Nuiqsut City Boundary ⁹
 - Cabin or Platform ⁴

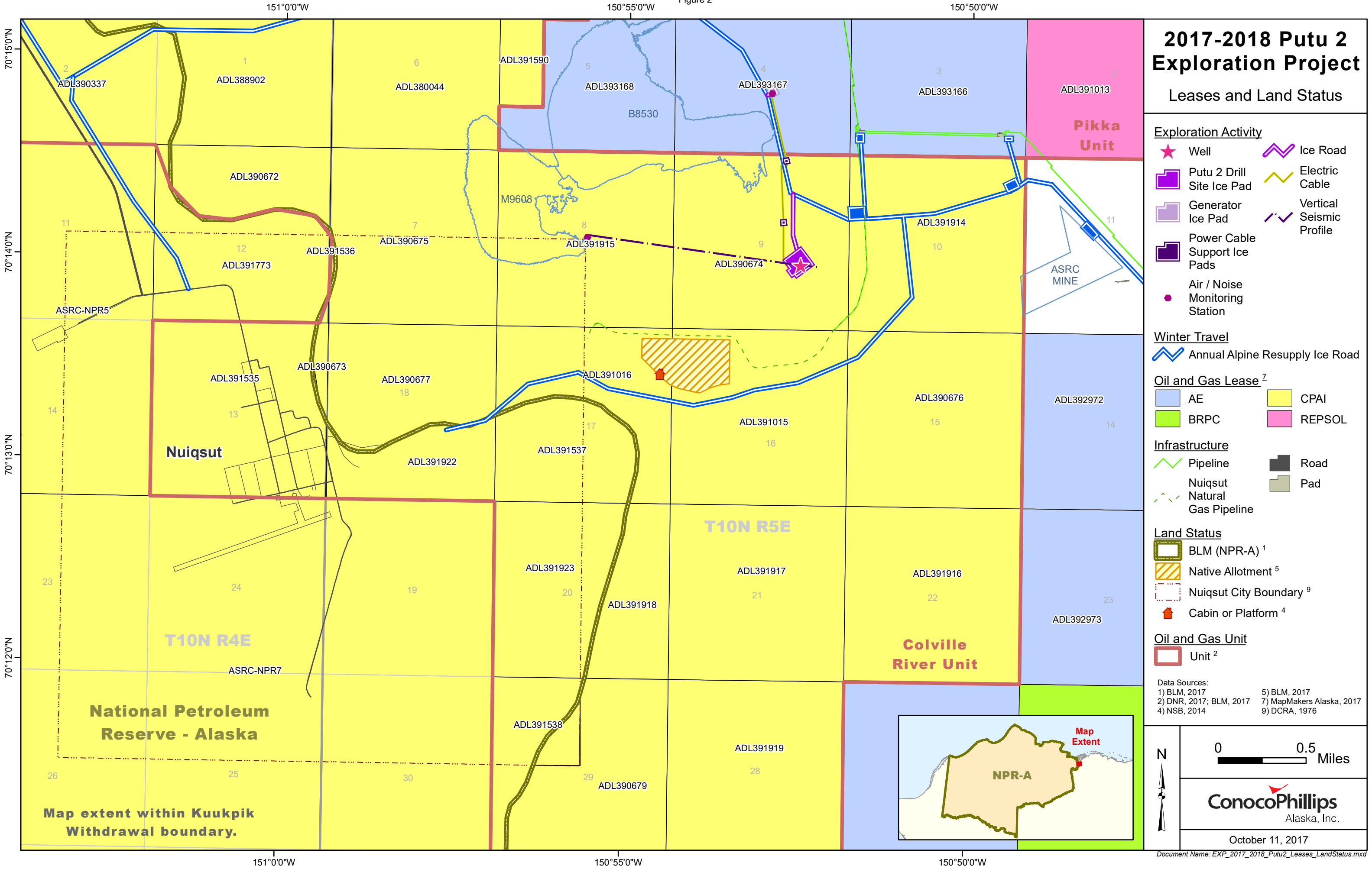
- ### Oil and Gas Unit
- Unit ²

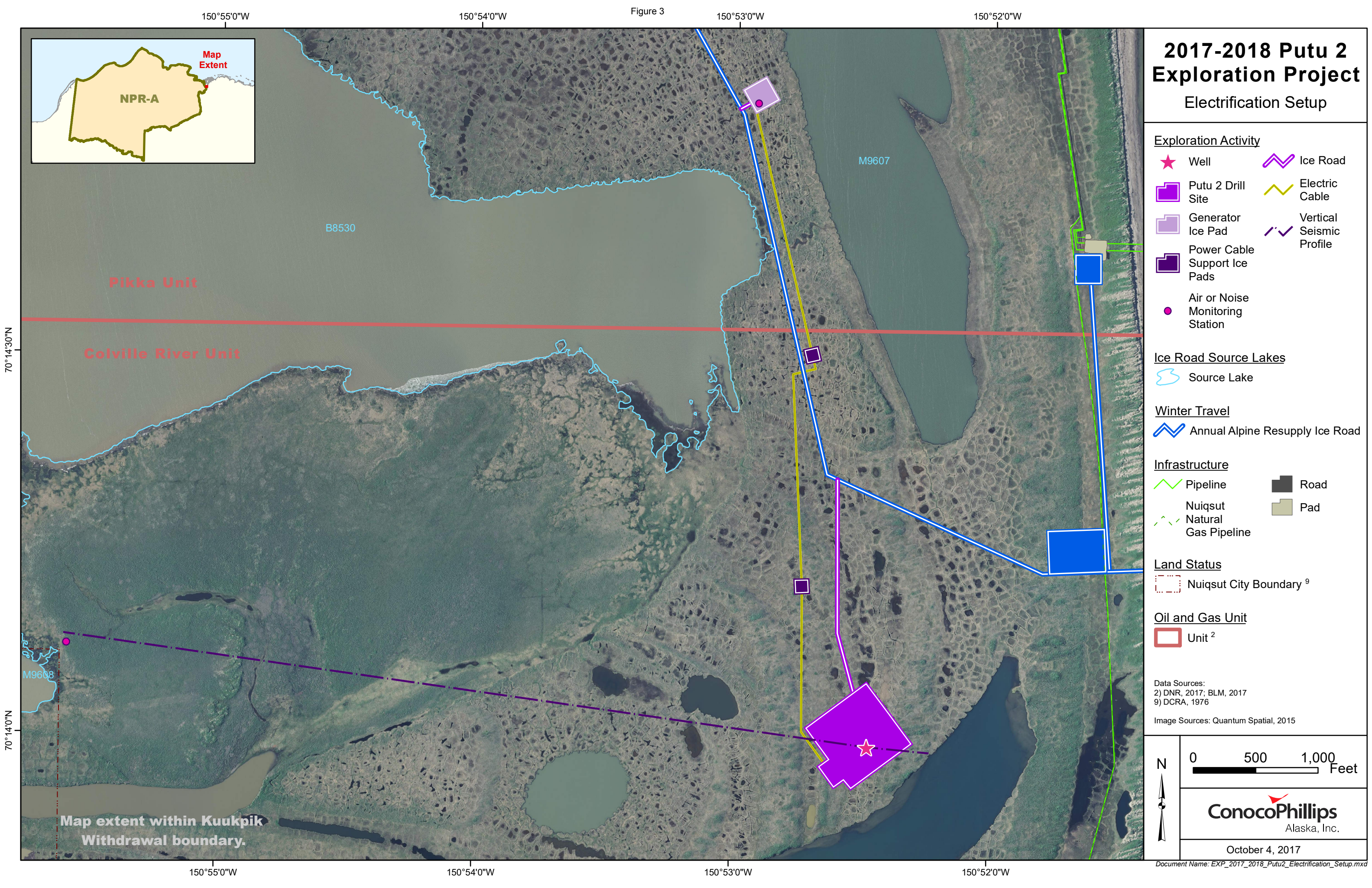
Data Sources:
1) BLM, 2017
2) DNR, 2017; BLM, 2017
4) NSB, 2014
5) BLM, 2017
9) DCRA, 1976
Image Sources: Quantum Spatial, 2015; Digital Globe

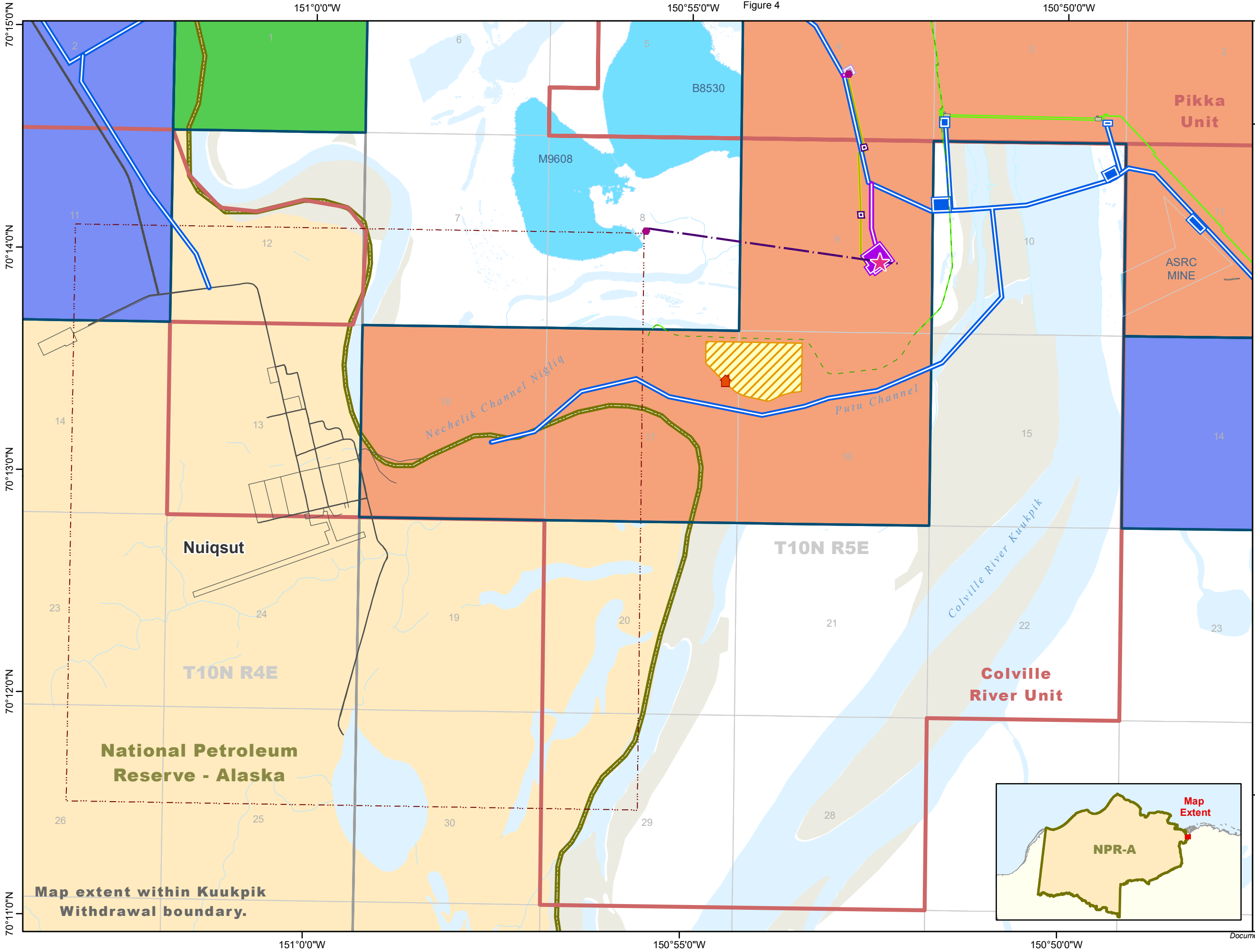
October 4, 2017



Figure 2







2017-2018 Putu 2 Exploration Project

NSB Zoning Districts

- Exploration Activity**
- Well
 - Putu 2 Drill Site Ice Pad
 - Generator Ice Pad
 - Power Cable Support Ice Pads
 - Air / Noise Monitoring Station
 - Ice Road
 - Electric Cable
 - Vertical Seismic Profile

- Ice Road Source Lake**
- Source Lake

- Winter Travel**
- Annual Alpine Resupply Ice Road

- Infrastructure**
- Pipeline
 - Nuiqsut
 - Natural Gas Pipeline
 - Road
 - Pad

- Resource Development Districts ⁸**
- Alpine
 - CD5
 - Alpine Satellite

- Land Status**
- BLM (NPR-A) ¹
 - Native Allotment ⁵
 - Nuiqsut City Boundary ⁹
 - Cabin or Platform ⁴

- Oil and Gas Unit**
- Unit ²

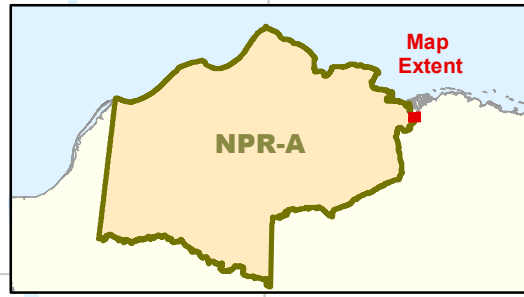
Data Sources:
1) BLM, 2017
2) DNR, 2017; BLM, 2017
4) NSB, 2014
5) BLM, 2017
8) NSB, 2015
9) DCRA, 1976

N

0 0.5 Miles

ConocoPhillips
Alaska, Inc.

October 4, 2017



PUTU 2 PAD

LOCATED WITHIN PROTRACTED
SECTION 9, T. 10 N., R. 5 E.
UMIAT MERIDIAN, ALASKA
1946' FSL 1441' FEL

NAD83 Datum

N 70°13'59.6"

W 150°52'28.1"

ASPC ZN4

(Y) 5,935,491

(X) 1,532,098

NAD27 Datum

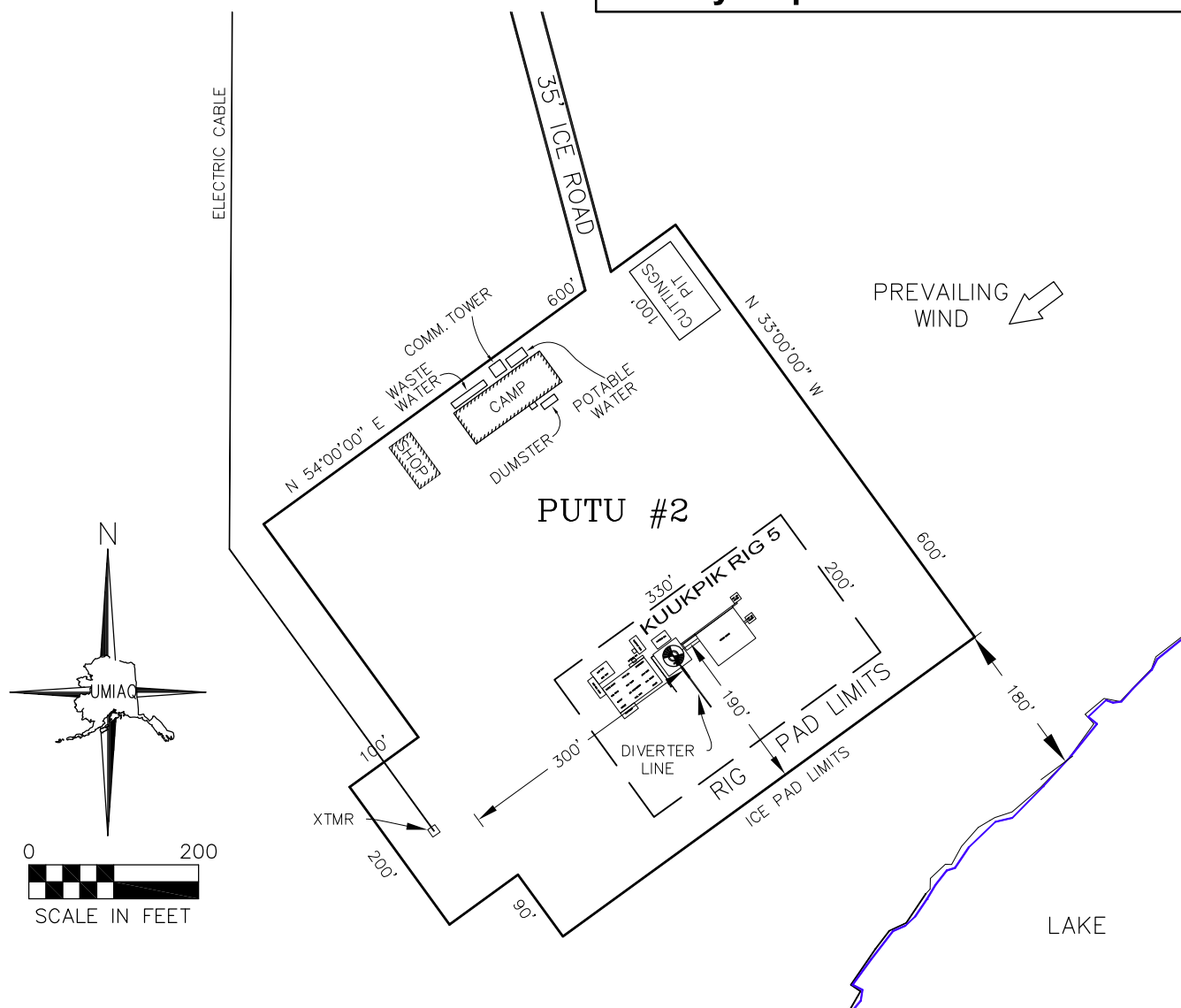
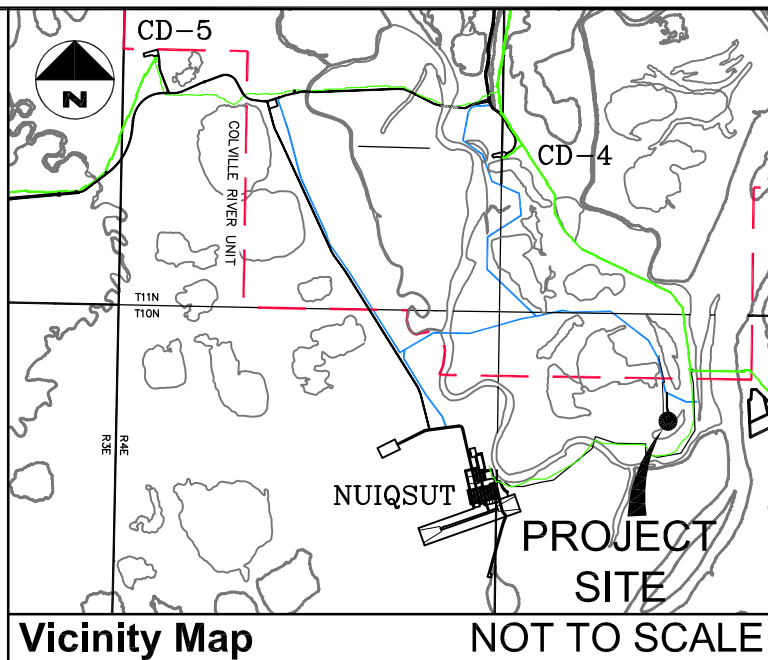
N 70°14'00.8"

W 150°52'16.9"

ASPC ZN4

(Y) 5,935,743

(X) 392,063



**KUUKPIK
UMIAT**
ALPINE SURVEY OFFICE
PHONE : 907-670-4739

CONOCOPHILLIPS OF ALASKA, INC.

PUTU 2 WELL
PAD LAYOUT
ALPINE, ALASKA

Figure 5

DATE: 09/01/17

DRAWN BY: KD

SHEET: 1

SCALE: 1" = 200'

CHECKED BY: CZ

W.O. No: 17-07-14-1

NOTES:

1. BASIS OF COORDINATES: OPUS SOLUTION OF GPS STATIC OBSERVATIONS 8/29/2017.
2. COORDINATES ARE NAD83, ALASKA STATE PLANE ZONE 4.
3. ELEVATIONS ARE CONVERTED FROM OPUS NAVD88 TO B.P.M.S.L. VERTICAL DATUM. (-3.5' ± DIFF.)
4. DISTANCES ARE TRUE. ALL DISTANCES AND ELEVATIONS ARE IN US SURVEY FEET.
5. DATE OF SURVEY: 8/29&31/2017.

PUTU 2 PAD

LOCATED WITHIN PROTRACTED SECTION 9, T. 10 N., R. 5 E. UMIAT MERIDIAN, ALASKA
1946' FSL 1441' FEL

NAD83 Datum

N 70°13'59.6"
W 150°52'28.1"

ASPC ZN4

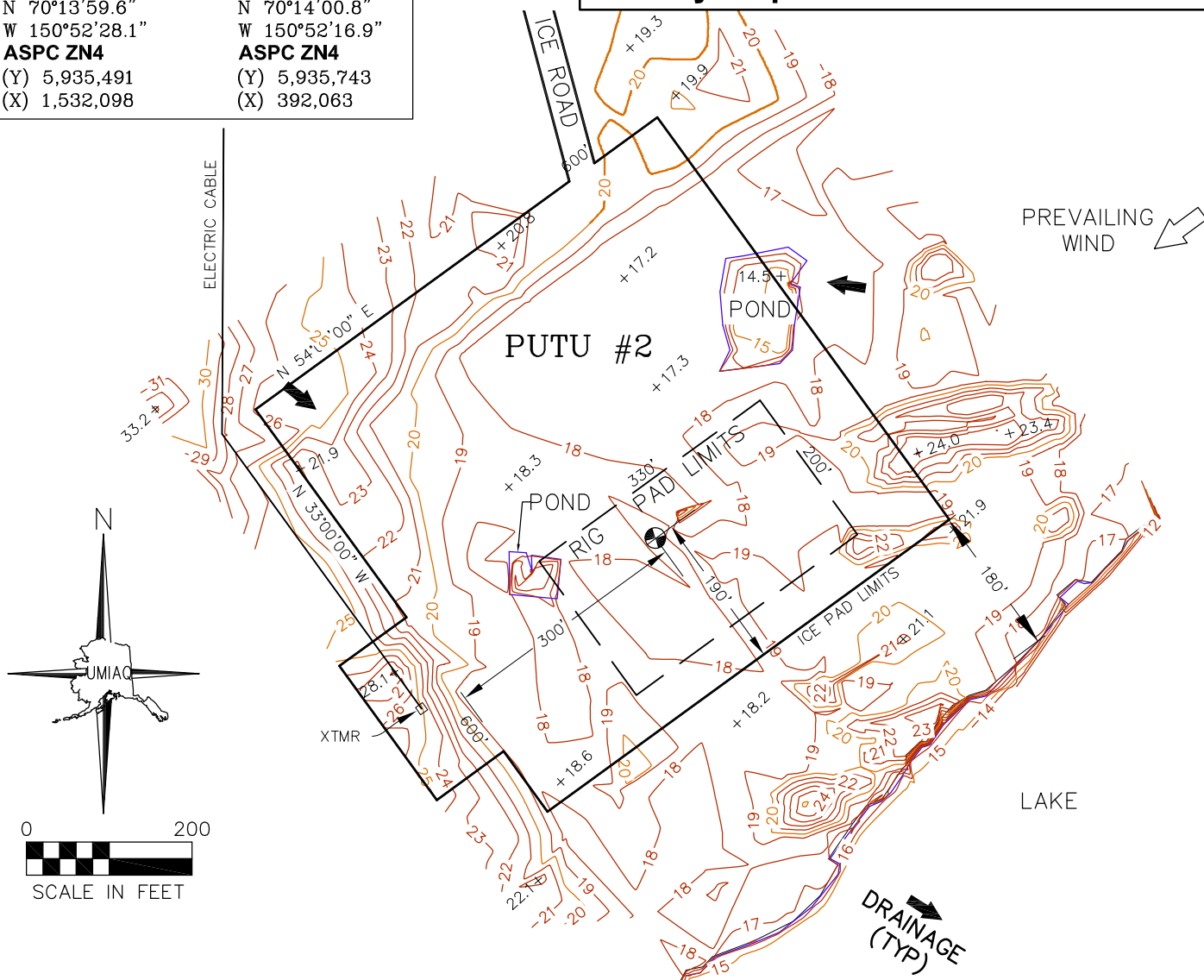
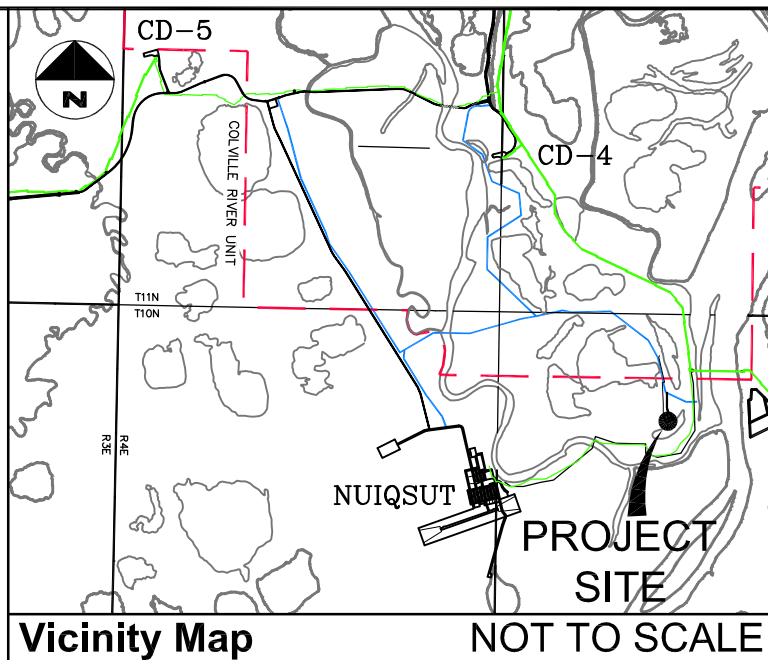
(Y) 5,935,491
(X) 1,532,098

NAD27 Datum

N 70°14'00.8"
W 150°52'16.9"

ASPC ZN4

(Y) 5,935,743
(X) 392,063



**KUUKPIK
UMIAT**
ALPINE SURVEY OFFICE
PHONE : 907-670-4739

CONOCOPHILLIPS OF ALASKA, INC.

PUTU 2 WELL
SITE TOPOGRAPHIC SURVEY
ALPINE, ALASKA

Figure 6

DATE: 09/01/17	DRAWN BY: KD	SHEET: 1
SCALE: 1" = 200'	CHECKED BY: CZ	W.O. No: 17-07-14-1